

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

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ALCATEL
 REÇU
 LE 24 MAI 2004
 PROPRIÉTÉ INDUSTRIELLE

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT
(PCT Rule 71.1)

Date of mailing (day/month/year)	21.05.2004
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Applicant's or agent's file reference 104366/HAS		IMPORTANT NOTIFICATION	
International application No. PCT/EP 02/08063	International filing date (day/month/year) 09.04.2002	Priority date (day/month/year) 09.04.2002	
Applicant ALCATEL et al.			

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.



4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel: +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Poquet Oliver, R Tel: +49 89 2399-2911	
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Form PCT/PEA/416 (January 2004)

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 104366/HAS		FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/EP 0208063	International filing date (day/month/year) 09.04.2002	Priority date (day/month/year) 09.04.2002		
International Patent Classification (IPC) or both national classification and IPC H04B7/185				
Applicant ALCATEL et al.				

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
 - ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 27.10.2003	Date of completion of this report 21.05.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Bodin, C-M Telephone No. +49 89 2399-8952 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 02/08063**

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-15 as originally filed

Claims, Numbers

1-25 received on 30.04.2004 with letter of 29.04.2004

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 02/08063**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-25
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- 1 Citation:
D1 = US-B-6 201 798
- 2 D1 discloses a satellite based monitoring (column 3, lines 30 and 31: "video"- the word "monitor" may have the meaning of "a screen in a television studio showing the picture being transmitted" according to Chambers English Dictionary), measurement (column 3, lines 30 and 31: audio: an audio signal constitutes an audio measurement of a microphone) or data collection (column 3, lines 30 and 31: data) system comprising:
 - i) a monitoring, measurement or data collection system having a plurality of monitoring stations (figure 1: 23a, 23b, 24) for remote monitoring, measurement or data collection and for providing data to respective down-link adapters
 - ii) a satellite system using at least one satellite (25) having an on-board processor (figure 13 B) for multiplexing up-link data received and broadcasting said multiplexed data in down-link transmission
- 3 In column 3, lines 30 and 31 of D1, it is proposed to transmit "data signals" over the satellite, which data signals may be received by the receiver (Figure 9: 176, 187). The data signals may of course be referred to as a data channel.

It is considered to be obvious to a person skilled in the art to extract the received data channel and to forward it to a "computation center".

In order to extract the data channel from the recovered baseband signal, a person skilled in the art would use a channel demultiplexer, such as the channel demultiplexer (212) shown in Figure 9.

However, in general, a demultiplexer (A, B) is capable of extracting at least two channels, such as channel A and channel B. To do so, the demultiplexer (A, B)

comprises a means A for extracting only channel A and a means B for extracting only channel B.

Consequently, a demultiplexer (212 in Figure 9) suitable for extracting a data channel can be considered to be a down-link adapter being adapted for extracting only the digital channel.

Therefore, the subject-matter defined in claim 1 is not considered to involve an inventive step in view of the disclosure of D1 and the knowledge of a person skilled in the art.

For corresponding reasons, also the subject-matter of claim 14 is not considered to be inventive in view of D1.

- 4 The additional features of the dependent claims do not appear to involve inventive subject-matter. In particular, attention is drawn to the fact that individual features of the dependent claims can be identified in D1 as follows:

claim 2: wherein each of said monitoring stations is connected through an up-link adapter (figure 3: 77 - 88) to a satellite up-link broadcasting station (figure 3: 92a, 92b).

claim 3: wherein said satellite system is a digital direct broadcast satellite system (column 5, lines 33 - 40)

claim 4: wherein at least one of the monitoring stations has at least one channel from the up-link transmission allocated thereto

claim 5: wherein several remote channels, or several monitoring stations are grouped together using sub-multiplexing (column 3, lines 30 and 31: video; - a video signal comprises audio information in a first sub-channel and picture information in a second sub-channel) channel capabilities of said digital direct broadcast satellite system

claim 7: wherein time and date (transmission of time and date is inherent e.g. in a television or radio transmission) is broadcast to said down-link

comprises a means A for extracting only channel A and a means B for extracting only channel B.

Consequently, a demultiplexer (212 in Figure 9) suitable for extracting a data channel can be considered to be a down-link adapter being adapted for extracting only the digital channel.

Therefore, the subject-matter defined in claim 1 is not considered to involve an inventive step in view of the disclosure of D1 and the knowledge of a person skilled in the art.

For corresponding reasons, also the subject-matter of claim 14 is not considered to be inventive in view of D1.

- 4 The additional features of the dependent claims do not appear to involve inventive subject-matter. In particular, attention is drawn to the fact that individual features of the dependent claims can be identified in D1 as follows:

claim 2: wherein each of said monitoring stations is connected through an up-link adapter (figure 3: 77 - 88) to a satellite up-link broadcasting station (figure 3: 92a, 92b).

claim 3: wherein said satellite system is a digital direct broadcast satellite system (column 5, lines 33 - 40)

claim 4: wherein at least one of the monitoring stations has at least one channel from the up-link transmission allocated thereto

claim 5: wherein several remote channels, or several monitoring stations are grouped together using sub-multiplexing (column 3, lines 30 and 31: video; - a video signal comprises audio information in a first sub-channel and picture information in a second sub-channel) channel capabilities of said digital direct broadcast satellite system

claim 7: wherein time and date (transmission of time and date is inherent e.g. in a television or radio transmission) is broadcast to said down-link

adapters and to said digital direct broadcast satellite receivers

- claim 8: a down-link adapter (figure 9: 187) for extracting at least one channel from a down-link transmission
- claim 9: a down-link adapter (figure 9: 187) for converting data framing from said satellite down-link data channel rate to message format and/or converting data rate to rate adapted to a cyclic data rate of said monitoring, measurement or data collection system
- claim 11: an up-link adapter (figure 3: 77 - 88) for converting signals received from a monitoring station of a monitoring, measurement or data collection system (60, 64, 68, 72), into signals suitable for digital up-link transmission as claimed in claim 2.
- claim 12: an up-link adapter for converting data message format from said monitoring station to an up-link format of said satellite system and converting data rate to an uplink rate adapted to said satellite system (this is considered to be an inherent feature in D1).

5 Clarity (Article 6 PCT):

- i) Claim 1 should have been formulated such that the computation center (3) is part of the satellite ... collection system.
- ii) In Figure 1, the reference sign "8" for the receiver should apparently be "6", see the description.

Replaced By
Art 34 Amdt

CLAIMS

- 1- A satellite-based monitoring, measurement or data collection system comprising:
 - 5 - a monitoring, measurement or data collection system having a plurality of monitoring stations (4) for remote monitoring, measurement or data collection and for providing data, to respective computation centers (3), and;
 - 10 - a satellite system using at least one satellite (2) having an on-board processor for multiplexing up-link data received and broadcasting said multiplexed data in down-link transmission;characterized in that at least one of said computation centers (3) has at least one satellite receiver (6) connected to a down-link adapter (7) for extracting at least one digital channel from said satellite down-link transmission.
- 15 2- A system according to claim 1, wherein each of said monitoring stations (4) is connected through an up-link adapter (5) to a satellite up-link broadcasting station (1).
- 20 3- A system according to claim 1 or 2, wherein said satellite system is a digital direct broadcast satellite system.
- 25 4- A system according to any one of the previous claims, wherein at least one of said monitoring stations (4) has at least one channel from the up-link transmission allocated thereto.
- 30 5- A system according to any one of the claims 3 to 4, wherein several remote channels, or several monitoring stations (4) are grouped together using sub-multiplexing channel capabilities of said digital direct broadcast satellite system.
- 6- A system according to any one of the previous claims, wherein a monitoring station (4) has a receiver for synchronizing message transmission using data extracted from said down-link channel multiplex content.
- 7- A system according to any one of the previous claims, wherein time and/or date is broadcast to said down-link adapters (7); and optionally to said digital direct broadcast satellite receivers (6).

- 8- A down-link adapter for extracting at least one channel from a down-link transmission as claimed in claim 1.
- 9- A down-link adapter according to claim 8 for converting data framing from said satellite down-link data channel rate to message format and/or
5 converting data rate to rate adapted to a cyclic data rate of said monitoring, measurement or data collection system.
- 10-A down-link adapter according to any one of claims 8 or 9 wherein said adapter provides data to another adapter.
- 11-An up-link adapter for converting signals received from a monitoring
10 station (4) of a monitoring, measurement or data collection system, into signals suitable for digital up-link transmission as claimed in claim 2.
- 12-An up-link adapter according to claim 11 for converting data message format from said monitoring station (4) to an up-link format of said satellite system and/or converting data rate to an uplink rate adapted to
15 said satellite system.
- 13-An up-link adapter according to claims 10 and 11 wherein said up-link adapter (5) receives data from another adapter such as a down-link adapter (7).
- 14-A method for interconnecting elements of a monitoring, measurement or
20 data collection using a satellite system, comprising:
- remote monitoring, measurement or data collection by means of a plurality of monitoring stations (4) and providing data to respective computation centers (3), and;
 - at least one satellite (2) of said system multiplexing up-link data by
25 means of an on-board processor and broadcasting said multiplexed data in down-link transmission;
- characterized in that at least one of said computation centers (3) extracts at least one digital channel from said satellite down-link transmission through a down-link adapter (7) connected to at least one satellite
30 receiver (6).
- 15-A method according to claim 14 wherein an up-link broadcasting station (1) at each of said monitoring stations (4) performs up-link broadcasting of data received from an up-link adapter (5) connected thereto.
- 16-A method according to claim 14 or 15 wherein said satellite system is a
35 digital direct broadcast satellite system.

- 17-A method according to claim 13 wherein said broadcasting of the multiplexed data in down-link transmission is performed in time division multiplexing, TDM, mode.
- 18-A method according to claim 14 wherein marker indexing is used in said
5 down-link transmission as a synchronization signal.
- 19-A method according to claim 18 wherein said synchronization is also used for sub-multiplexing up-link channels transmission.
- 20-A method for interconnecting adapters (5; 7) as in claims 10 and 13, wherein data is returned from a down-link adapter (7) to an up-link
10 adapter (5) transferring time information and/or data information between said adapters (5; 7).
- 21-A method according to claim 20, wherein said time and/or date transfer carries connected device data transfer protocol acknowledgment.
- 22-A method for use in the adapter of claim 12 or 13 wherein a data
15 message is delayed before being put into a next frame generated at a digital direct broadcast satellite channel rate, using a frame produced faster than needed by the rate of monitoring, measurement or data collection, thus giving rise to a so-called marker frame carrying data such as timing data.
- 20 23-A method for use in the adapter of claim 8 or 9 wherein data related to time and/or date is/are broadcast through a digital direct broadcast satellite system and wherein a frame received at a digital direct broadcast satellite channel rate, is converted into a message at a monitoring, measurement and data collection rate with the exception of a marker
25 frame carrying data such as timing data.
- 24-A method according to claim 23 wherein said timing data is used for evaluating transit time or for providing time to any other unit connected thereto such as a display.
- 25-A method according to claim 24 wherein a transit time of a message from
30 a time instant it is transmitted from an up-link adapter until a time instant it is received by a down-link adapter through a digital direct broadcast satellite is evaluated.
- 26-A method according to claim 13 wherein a computation center (3) broadcasts through a digital direct broadcast satellite, to said monitoring
35 stations (4) by means of an up-link adapter (5) incorporated therein and a

- 19 -

monitoring station (4) having a down-link adapter (7) detects a channel specifically addressed thereto, providing data to said monitoring station, said data being usable for implementing a unicast, multicast or broadcast addressing scheme.

5